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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,577	01/16/2002	Horst Rathert	70418	8660

7590 03/18/2005
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EXAMINER

PETERSON, KENNETH E

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/051,577
Filing Date: January 16, 2002
Appellant(s): RATHERT, HORST

MAILED
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GROUP 3700

Theobald Dengler
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 02 March 05.

(1) ***Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

(2) ***Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) ***Status of Claims***

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

3,722,336	Sarring	March 1973
5,279,196	Mohr	January 1994

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

112-1st

Claims 1,2,3,8,14,19 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one

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skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

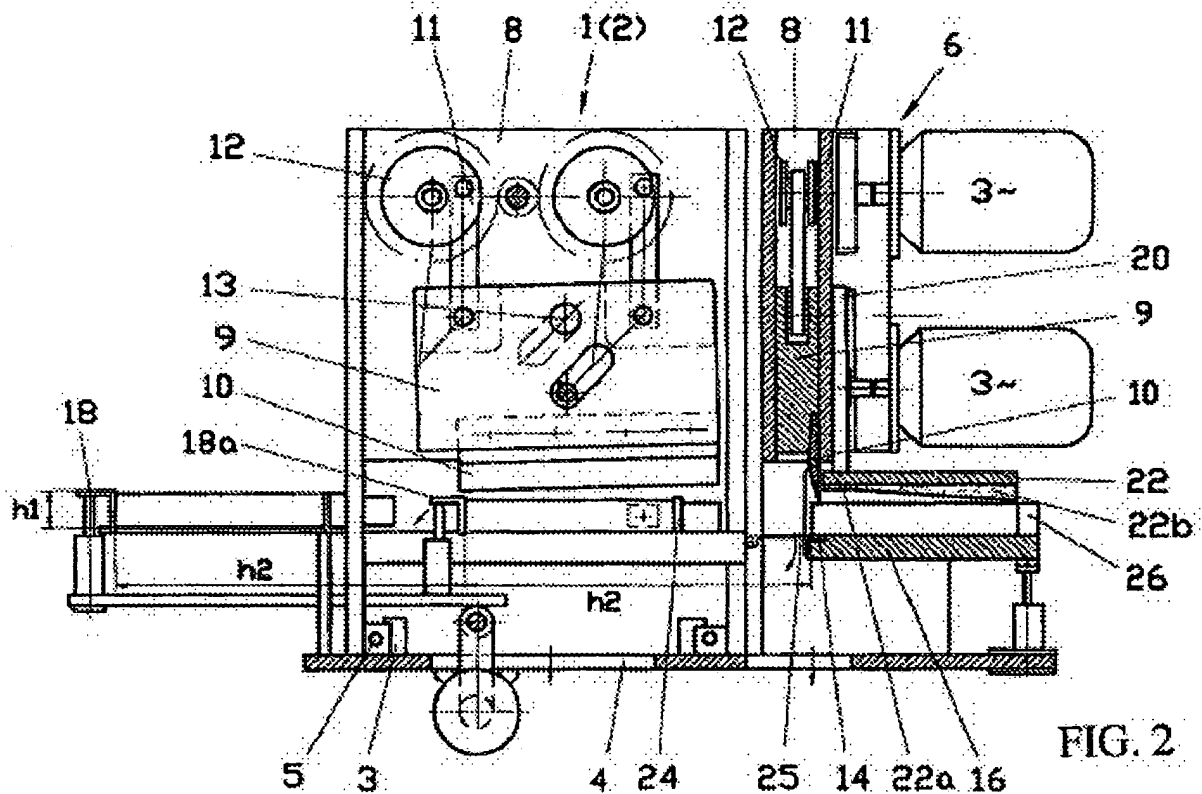
THE CUTTING UNITS

This in regards mostly to claims 2,14 and 20, but also applies to all independent claims since they all generically recite the cutting units and one must look to the specification to see how these cutting units are made.

The specification recites that the cutting units are “designed as elements that are closed in themselves” and that “All pressing and cutting forces remain within the compact units”. See lines 10,11, page 4 under “Summary of the Invention”. This feature is not described at all in the detailed description of the invention. There are two problems with this part of the specification, the first part (Problem A) being that it is not clear what forces are transmitted, and the second part (Problem B) is that it is not clear how one would build such a device even if one did understand what forces are transmitted.

Problem A – Line 11 of page 4 recites that “*All pressing and cutting forces remain within the compact units*”. However, claim 2 recites that “*the support frame is loaded only by the weights and dynamic forces of said cutting units*”. Since the “pressing and cutting forces” are undoubtedly “dynamic forces”, there is a conflict as to whether or not these some of these forces are passed onto the support frame. Is blade movement initiation and it’s reactionary forces part of the “dynamic forces” or parting of the “cutting forces”?

Problem B – As seen in figure 2;



Each cutting unit has three motors; two on top to drive the blade and one on bottom to drive the clamp. The two motors on top drive eccentrically mounted links (11) that would create a wobbling reactionary force that would be transmitted to the support frame. The bottom motor drives a laterally offset rack (20), which would create a reactionary torque that would be transmitted to the support frame. The blade (9) moves diagonally and the rack (20) moves vertically and would create reactionary diagonal and vertical forces that would be transmitted to the support frame. The blades and clamps impact the workpiece in a downward direction, which is a force that would be

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transmitted to the support frame. So there are at least 6 unique forces that are “dynamic forces” or “pressing and cutting forces” that are transmitted to the support frame, which begs the question of “how are the cutting units *closed in themselves*”.

One of ordinary skill could arguably be aware of ways to minimize simple reactionary forces by employing counterbalances of some sort (e.g. a “recoilless rifle”). But in this case, there are so many forces working in so many directions that it is not at all clear how one would avoid transmitting forces to the support frame, even assuming one could solve problem A first and know which forces had to be stopped. Even if the forces in question are just the impact of the blade and pressing strip onto the book, then it is still not obvious how to not pass those forces on to the support frame below. This is an especially tricky problem because different books being trimmed have different thicknesses, and thus the knife and clamp will impact at different times depending on the book thickness, and thus and knife-and-clamp-impact force compensator would have to have some complex mechanism to take this into account in order to substantially counterbalance the downward force for different book thicknesses.

Pressing Element Adaptors

Although none of the active claims recite the adaptors, the active claims do recite the pressing elements, and one reading the claims would have to go to the specification to see how the pressing elements work and need an understanding of the adaptors which are integral with the pressing elements. If the board of appeals thinks the following points would make a better *objection to the specification* as opposed to a

rejection, then the Examiner will gladly convert it to an objection.

The specification does not explain how the telescoping adaptors work, how they are "shutter like", or how are they "accordion like". It would not be clear to one of ordinary skill how to make or use them, since the specification and drawings lack sufficient detail.

112, 2nd

Claims 2,14 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 20 recite that the cutting units absorb substantially all forces. It is not clear what weight should be given to this phrase. Claim 2 appears to mention that weight forces and dynamic forces are not absorbed, which begs the question of "what forces *are* absorbed?". As discussed in the 112, 1st rejection above, one of ordinary skill in the art will not be able to determine what the scope of the claim is. Furthermore, the use of the term "substantially" is vague since there is no structure shown to give a claim reader a good understanding of what is or is not "substantial".

Prior Art - 103

Claims 1-3,8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarring '336, who shows a three-knife book trimmer with most of the recited limitations. For ease of understanding, Examiner has clipped the claims into this action

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and includes in parentheses how Sarring meets each limitation as follows;

Claim 1 - A three-side trimmer comprising:

a common support frame (see figure 2),

first and second cutting stations (765,1211,1212) each with a cutting unit with knives (974 of figures 4,26 and 1491 of figure 35) for an oblique swing squeezing cut (figures 25,34 – but not squeezing – See note 1 below) against the cutting strips (978 of figures 4,26 and 1436 of figure 35);

a block head pressing element (1432 of figure 35) on said common support frame, said block head pressing element being a closed compact unit (See note 2 below) with a block head pressing drive (1466,1468,1476 etc of figure 34);

a block foot pressing element (mirror image of 1432, see lines 63,64 column 39) on said common support frame, said block foot pressing element being a closed compact unit (See note 2 below) with a block foot pressing drive (mirror image of 1466,1468,1476 etc,) separate from said block head pressing drive (the mentioned elements are physically spaced);

a block front pressing element (764, figures 4 and 26) on said common support frame, said block front pressing element being a closed compact unit (See note 2 below) with a block front pressing drive (774,800 etc of figure 4) separate from said block head pressing drive and separate from said block foot pressing drive (the mentioned elements are physically spaced);

and a conveyor (1294) of the material being cut that is common to the block head

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pressing element and the block foot pressing element and the block front pressing element (as best seen in figure 2).

Claim 2 - A three-side trimmer in accordance with claim 1, wherein the cutting units have a unit frame that substantially absorbs all flow of forces from the squeezing cut and the support frame is loaded only by the own weights and dynamic forces of said cutting units (See note 3 below), said support frame being a lightweight frame (Sarring's frame is lightweight compared to a 100 ton die press frame).

Claim 3 - A three-side trimmer in accordance with claim 1, wherein one of said cutting stations is a front cutting station and includes a full-area cutting table corresponding to a largest format (Sarring's device is adjustable to fit larger formats, lines 49-54, column 1).

Claim 8 - A three-side trimmer in accordance with claim 1, wherein all knives are guided in flat guides (see figures 26 and 35).

Claim 20 - A three-side trimmer comprising:
a common support frame (see figure 2),
first and second cutting stations (1211,1212) each with a cutting unit including a cutting strip (1436 of figure 35, note lines 63,64 of column 39) and a knife (1491 of figure 35) for an oblique swing cut (figure 34) against a respective said cutting strip

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(1436, See note 1 below);

said each cutting unit including a unit frame (1211,1212) connecting said respective cutting strip (1436) to a respective said knife (obviously mechanically connected as see in figure 34),

each said unit frame substantially absorbing all forces between said knife and said cutting strip during the oblique swing cut (See note 3 below),

said each cutting unit being movably mounted as a unit on said common support frame (lines 25-27, column 41):

a block head pressing element (1432 of figure 35) on said common support frame, said block head pressing element being a closed compact unit (See note 2 below) with a block head pressing drive (1466,1468,1476 etc of figure 34);

a block foot pressing element (mirror image of 1432, not shown) on said common support frame, said block foot pressing element being a closed compact unit (See note 2 below) with a block foot pressing drive (mirror image of 1466,1468,1476 etc, not shown) separate from said block head pressing drive (the mentioned elements are physically spaced);

a block front pressing element (764, figures 4 and 26) on said common support frame, said block front pressing element being a closed compact unit (See note 2 below) with a block front pressing drive (774,800 etc of figure 4) separate from said block head pressing drive and separate from said block foot pressing drive (the mentioned elements are physically spaced); and

a conveyor (1294) of material being cut being common to the block head

pressing element and the block foot pressing element and the block front pressing element (as best seen in figure 2).

Note #1 - Claim 1 recites a "squeezing cut" and claim 20 recites that the knife moves "against" the cutting strip. Sarring '336 uses knives (974,1491) that shear in cooperation with a stationary lower knives (978,1436), rather than making a "squeezing cut" "against" the cutting strip. However, Examiner takes Official Notice that it is quite common to employ squeeze cutters when cutting thru large stacks of papers. It is noted that Applicant has not challenged this taking of Official Notice and thus it is now deemed to be a fact as per MPEP 21440(C). For example, Mohr '196 shows such a device (see knife 10, cutting strip 11). These squeeze cutting strips are usually made of a material such as urethane that is softer than the knife and ensures full knife contact across the length of the cutting edge. This is in some ways superior to shears in that shears become offset over time (think old scissors) and don't fully cut the paper. It would have been obvious to one of ordinary skill in the art to have adapted Sarring's '336 knife to make a squeeze cut, as taught by Mohr, to ensure a better cut and since shear cutters and squeeze cutters are art-recognized equivalents. See MPEP 2144.06. Examiner would like to stress that dozens of patents show shearing in this situation, and dozens of patents show squeeze cutting in this situation. If the board feels that this point is currently underdeveloped, the board should feel free to remand this case to the Examiner and he will gladly add dozens of references to the rejection that discuss the pros and cons of doing a shear cut versus a squeeze cut.

Note #2 - In regards to the block pressing elements being "closed compact units", the Examiner looks to Applicant's specification and drawings to find the meaning of the term "closed compact unit". This phrase is not used in the specification for the block pressing elements, so Examiner looks solely to the drawings for enlightenment. For example, figure 3 shows that a block pressing elements is a pressing strip (19) a rack (20) and a motor (lower 3). These parts are very much intermingled with the parts of the cutter and thus the term "closed" is interpreted to include intermingling with other machine parts. The rack (20), the pressing strip (19) and the motor (lower 3) extend in significant amounts in three different directions, so the term "compact" is interpreted to include fairly large areas. Given these interpretations, it is deemed that Sarring's block pressing elements are "closed compact units".

Note #3 - In regards to the absorption or non-absorption of forces, particularly as recited in claims 2 and 20, Examiner has little choice but to interpret that Sarring has the same absorption of forces that Applicant's device does, since they are so structurally similar and Applicant has not set forth nor clearly inferred any unique structure that would absorb the device's forces any more than Sarring does. Of course Sarring's cutting unit does absorb *some* forces to *some* extent, and thus meets the claimed recitation, as broadly understood.

(11) Response to Argument

Issue 1 – 112, 1st

Firstly it is noted that the portion of this rejection involving the conveyor has been dropped. Applicant arguments were persuasive in this regard.

Applicant notes that none of the claims recite the telescoping adaptors that are “shutter like” or “accordion like” and therefore none should be rejected. It is true that none the active claims recite the adaptors, but one reading the claims would have to go to the specification to see how the pressing elements work and need an understanding of the adaptors which are integral with the pressing elements. It is noted that Applicant has not amended the specification or drawings to clarify the adaptors in any way. If the board of appeals thinks this portion of the 112, 1st rejection would make a better *objection to the specification* as opposed to a *rejection*, then the Examiner will gladly convert it to an objection.

Applicant argues that none of the claims employ the exact specification language of “cutting units are designed as elements that are closed in themselves” and therefore none of the claims should be rejected based on this shortcoming of the specification. However, all of the claims recite the cutting unit, and one must look to the specification to see how the cutting units are built and would quickly be confused by the phrases “*cutting units are designed as elements that are closed in themselves*” and that “*All pressing and cutting forces remain within the compact units*”. Especially claim 2 and claim 20 should be rejected, since claim 2 has the similar language of “*wherein the cutting units have a unit frame that substantially absorbs all flow of forces from the*

squeezing cut and the support frame is loaded only by the own weights and dynamic forces of said cutting units” and claim 20 has the similar language of “*each said unit frame substantially absorbing all forces between said knife and said cutting strip during the oblique swing cut*”. Claim 14 depends from claim 2 and thus is equally troublesome as claim 2.

Issue #2 - 112, 2nd

Applicant argues that one of ordinary skill is capable of calculating the forces involves and the resultant equal but opposite force. However, applicant’s lack of explanation belies the purported obviousness. If it is so mundane, then why has Applicant not shown how it is done? Indeed, the cancellation of even some of the forces is a complex issue as seen in the paragraphs above, and not something that would be within the skill of an ordinary mechanical engineer.

Applicant states that it is the forces from the squeezing cut and not the dynamic forces that are being eliminated in claims 2, 14 and 20. However it is not clear where the squeeze cut forces start or where the dynamic forces end. Is the initiation of blade movement and its reactionary forces part of the squeeze cut force or part of the dynamic forces. How much is “substantially” all of the squeeze cut forces? If there was a structural description of how this all worked, Examiner might be able to make an interpretation, but without a physical description, it is a mystery how much weight to give to “substantially”.

Given the lack of understanding of what forces are absorbed and a lack of

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understanding to what extent some forces are absorbed, and a lack of understanding of how it works, it is fair to state that there will be some confusion as to who would or would not be infringing on these claims. This also is not fair to the examination process, as the examiner can not be sure which of myriad possible rejections should be applied.

Issue #3 – 103 and Prior Art

Applicant argues that if it is obvious to have Sarring employ a squeeze cut, then most aspects of the invention are obvious, since most of the parts are known. This seems to be a self-defeating argument. Applicant then requests “uniform consideration” when applying rejections. Of course, the Examiner has applied uniform consideration, namely that secondary references, such as Mohr, be from analogous arts and that there be some basis for modification. Examiner has applied this same logic to claim 14 and 19 and found that there are no references from analogous arts that teach the claimed sloping clamp surface.

Applicant argues claims 2 and 20, noting that the cutting unit absorbs substantially all swing cut forces. Since Sarring has generally the same cutting unit structure (see figure 34) as Applicant’s device, it is argued that it absorbs the same forces, at least to the extent that the claim language is broadly understood. Examiner does understand the force absorption language to the extent that a reference would need to absorb “some forces to some extent”, which Sarring surely does.

Applicant argues claim 20, noting that all cutting units are movable. It is noted that claim 20 only positively claims two cutting units, and Sarring has two movable cutting units (lines 25-27, column 41).

Applicant criticizes Sarring for his complexity. However, this does not change the fact that Applicant's claims recite no non-obvious subject matter.

Applicant argues claim 1 and 20, noting that the block pressing elements are "closed compact units". As fully addressed above, this term must be interpreted broadly based on Applicant's drawings and lack of disclosure. Applicant cannot argue that his units are entirely closed, as they undoubtedly share electric or pneumatic power cables to run the motors on different units. Furthermore, the Block pressing elements are completely intermingled with the cutting units and thus "closed" must be interpreted to include intermingling with other systems. While Applicant *can* argue that that his block pressing element is more compact than Sarring's, Applicant *cannot* argue that the term "compact" establishes a clear line between his cutting unit and Sarring's cutting unit, since the term "compact" is a relative term. Sarring's cutting unit no doubt can be considered "compact" when compared to other, larger units.

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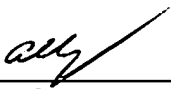
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

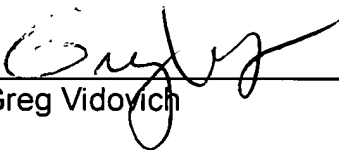
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March 17, 2005


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